

What is claimed is:

Claims

1. A release collar utilizable with a coupling including a female member and a male member, the release collar comprising:

a ring comprising a first axial end and a second axial end;

an actuator comprising a first axial end and a second axial end, wherein the actuator is disposable between the male member and the female member, and wherein the actuator is in closer proximity to the male member than to the female member when the male member, the female member, and the release collar are engaged, such that the second axial end of the actuator is radially expandable within the actuator cavity;

a flange operably engaging the first axial end of the actuator and the first axial end of the ring.

2. The release collar of claim 1, wherein the actuator is engagable with a locking ring disposed between the male member and the female member, such that when force is applied to the flange, the actuator is capable of dislodging the locking ring into a chamber within the female member.

3. The release collar of claim 1, wherein the actuator has a thickness that is substantially less than a radial distance between an inner release surface of the female member and an outer release surface of the male member.

4. The release collar of claim 1, wherein the first axial end of the actuator is disposed near a first diameter of the flange, and wherein the first axial end of the ring is disposed near a second diameter of the flange.
5. The release collar of claim 1, wherein a lip is disposed at the second axial end of the ring, and wherein the lip extends radially inward such that the release collar is retainable on the female member.
6. The release collar of claim 5, wherein the lip provides a seal between the release collar and the female member.
7. The release collar of claim 1, wherein the actuator comprises a cylinder having at least one axial aperture.
8. The release collar of claim 1, wherein the actuator comprises a plurality of fingers.
9. The release collar of claim 1, wherein the actuator is capable of flexing between the male member and the female member.
10. A coupling comprising the release collar of claim 1, and further comprising a female member including at least one slot arranged and constructed to receive at least one finger of the actuator.

11. A release collar utilizable with a coupling including a female member, a male member, and an actuator cavity having a radial distance, the release collar comprising:

a flange comprising a first diameter and a second diameter;

an actuator comprising a first axial end, a second axial end, and a thickness, wherein the first axial end of the actuator is disposed near the first diameter of the flange, wherein the actuator is disposable between the male member and the female member, and wherein the thickness of the actuator is substantially less than the radial distance;

a ring comprising a first axial end and a second axial end, wherein the first axial end of the ring is disposed near the second diameter of the flange.

12. The release collar of claim 11, wherein a lip is disposed at the second axial end of the ring, and wherein the lip extends radially inward such that the release collar is retainable on the female member.

13. The release collar of claim 12, wherein the lip provides a seal between the release collar and the female member.

14. The release collar of claim 11, wherein the flange provides a seal between the release collar and the male member.

15. The release collar of claim 11, wherein the radial distance is present between an inner release surface of the female member and an outer release surface of the male member, and wherein the actuator is in closer proximity to the outer release surface of the male member than to the inner release surface of the female member when the male member, the female member, and the release collar are engaged.

16. The release collar of claim 11, wherein the actuator comprises at least one of a cylinder having at least one axial aperture and a plurality of fingers.

17. The release collar of claim 11, wherein the actuator is in closer proximity to the male member than to the female member when the male member, the female member, and the release collar are engaged, such that the second axial end of the actuator is radially expandable within the actuator cavity.

18. The release collar of claim 11, wherein the actuator is capable of flexing between the male member and the female member.

19. A coupling comprising the release collar of claim 11, wherein the female member includes at least one slot arranged and constructed to receive at least one finger of the actuator.

20. The release collar of claim 11, wherein the actuator is engagable with a locking ring disposed between the male member and the female member, such that when force is applied to the flange, the actuator is capable of dislodging the locking ring into a chamber within the female member.

21. A release collar utilizable with a coupling including a female member, a male member, and an actuator cavity having a radial distance between an inner release surface of the female member and an outer release surface of the male member, the release collar comprising:

an annular flange comprising an inner diameter and an outer diameter;

an actuator comprising a first axial end, a second axial end, an inner diameter, an outer diameter, and a thickness, wherein the first axial end of the actuator is disposed near the inner diameter of the annular flange, wherein the thickness of the actuator is substantially less than the radial distance, wherein the actuator is disposable between the male member and the female member, and wherein the actuator is in closer proximity to the outer release surface of the male member than to the inner release surface of the female member when the male member, the female member, and the release collar are engaged, such that the second axial end of the actuator is radially expandable within the actuator cavity;

a ring comprising a first axial end, and a second axial end, wherein the first axial end of the ring is disposed near the outer diameter of the annular flange, and wherein the second axial end comprises a lip that extends radially inward such that the release collar is retainable on the female member.

22. The release collar of claim 21, wherein the actuator comprises a first material, wherein the ring comprises a second material, wherein the annular flange comprises the first material and the second material, and wherein the second material covers most of the outer surface of the annular flange and at least part of the inner surface of the annular flange.

23. The release collar of claim 21, wherein the lip provides a seal between the release collar and the female member, and wherein the inner diameter of the annular flange provides a seal between the release collar and the male member.

24. The release collar of claim 21, wherein the actuator comprises a cylinder having at least one axial aperture.

25. The release collar of claim 21, wherein the actuator comprises a plurality of fingers.

26. The release collar of claim 21, wherein the actuator is engagable with a locking ring disposed between the male member and the female member, such that when force is applied to the flange, the actuator is capable of dislodging the locking ring into a chamber within the female member.

27. The release collar of claim 21, wherein the actuator is capable of flexing between the male member and the female member.

28. A coupling comprising the release collar of claim 21, wherein the female member includes at least one slot arranged and constructed to receive at least one finger of the actuator.